

CLAIMS

What is claimed is:

- 1 1. A torch, comprising:
 - 2 a torch butt;
 - 3 a valve assembly operable to control a first flow of a fluid through the torch butt,
 - 4 a lever selectively securable to pivot about a first portion of the torch butt and a second
 - 5 portion of the torch butt, wherein the second portion is disposed on the torch butt opposite the
 - 6 first portion; and
 - 7 wherein the valve assembly is operable to enable the lever to operate the valve assembly
 - 8 with the lever selected to pivot about the first portion of the torch butt and the second portion of
 - 9 the torch butt.
- 1 2. The torch recited in claim 1, wherein the valve assembly is securable to the torch
2 butt in a first orientation relative to the torch butt and in a second orientation relative to the torch
3 butt, the second orientation being inverted relative to the first orientation.
- 1 3. The torch recited in claim 2, wherein the valve assembly comprises a seat and
2 the torch butt comprises a first seating surface for sealing engagement with the seat when the
3 valve assembly is disposed in the first orientation and a second seating surface for sealing
4 engagement with the seat when the valve assembly is disposed in the second orientation.
- 1 4. The torch as recited in claim 1, wherein the first portion of the torch butt and the
2 second portion of the torch butt are disposed proximate to the rear of the torch butt.
- 1 5. The torch as recited in claim 1, wherein the torch butt comprises a second valve
2 assembly operable to control a second flow of the fluid through the torch butt.
- 1 6. The torch as recited in claim 5, wherein the second valve assembly comprises a
2 throttle valve.
- 1 7. The torch as recited in claim 1, comprising a handle coupleable to the torch butt,
2 wherein the handle has a skull-shaped cross section uniform along a length of the handle.

1 8. The torch as recited in claim 1, comprising a handle coupleable to the torch butt,
2 wherein the handle has an upper radius and a lower radius that are uniform along a length of the
3 handle.

1 9. A method of manufacturing a torch, comprising:
2 selecting a desired location for placement of a lever on the torch from one of a plurality
3 of locations on the torch adapted to receive the lever;
4 disposing a valve assembly within the torch in one of a first orientation relative to the
5 torch and a second orientation relative to the torch based on the desired location for the lever;
6 and
7 pivotally securing the lever to the torch at the desired location to enable the lever to
8 operate the valve assembly.

1 10. The method of manufacturing a torch recited in claim 9, wherein disposing a
2 valve assembly within a passage in the torch comprises assembling the valve assembly within
3 the torch to enable a seat to engage a first seating surface when the valve assembly is disposed
4 in the first orientation and assembling the valve assembly within the torch to enable the seat to
5 engage a second seating surface when the valve assembly is disposed in the second orientation.

1 11. The method as recited in claim 10, comprising manufacturing a torch butt with a
2 passage to receive the valve assembly, the passage being formed to define the first seating
3 surface and the second seating surface.

1 12. The method as recited in claim 11, wherein manufacturing a torch butt
2 comprises manufacturing the torch butt with a first passageway and a second passageway, the
3 first passageway enabling a fluid to flow through the torch butt when the valve assembly is
4 disposed in the first orientation, and the second passageway enabling the fluid to flow through
5 the torch butt when the valve assembly is disposed in the second orientation.

1 13. The method as recited in claim 11, comprising coupling a handle to the torch
2 butt.

1 14. A torch, comprising:
2 a valve assembly; and
3 a torch butt comprising a passageway for receiving the valve assembly,
4 wherein the valve assembly is selectively securable to the torch butt in a first orientation
5 and a second orientation relative to the torch butt, the second orientation being inverted relative
6 to the first orientation.

1 15. The torch as recited in claim 14, wherein the passageway defines a first seating
2 surface and a second seating surface for sealing engagement with the valve assembly, the first
3 and second seating surfaces being oriented in opposite directions.

1 16. The torch as recited in claim 14, comprising a first portion and a second portion,
2 wherein the first and second portions are operable to pivotally secure a valve-operating lever to
3 the torch butt, wherein the first portion and the second portion are disposed on opposite rear
4 positions of the torch butt.

1 17. The torch as recited in claim 16, wherein the valve assembly is oriented in the
2 first orientation to enable the valve-operating lever to operate the valve assembly when secured
3 to the first portion of the torch butt.

1 18. The torch as recited in claim 17, wherein the valve assembly is oriented in the
2 second orientation to enable the valve-operating lever to operate the valve assembly when
3 secured to the second portion of the torch butt.

1 19. The torch as recited in claim 16, wherein the first portion and the second portion
2 comprise a hole in the torch member.

1 20. The torch as recited in claim 14, comprising:
2 an inlet for receiving a first fluid into the torch butt; and
3 a first passageway that couples the inlet to the valve assembly when the valve assembly
4 is oriented in the first orientation; and
5 a second passageway that couples the inlet to the valve assembly when the valve
6 assembly is oriented in the second orientation.

1 21. The torch as recited in claim 20, comprising a first outlet coupled to the inlet
2 through the valve assembly.

1 22. The torch as recited in claim 20, comprising a second outlet coupled to the inlet
2 via a bypass around the valve assembly.

1 23. The torch as recited in claim 20, comprising a third outlet coupled to a second
2 inlet for receiving a second fluid.

1 24. A torch butt for a cutting torch, comprising:
2 a first inlet for receiving a first gas;
3 a first passageway operable to couple the first gas to an inlet of a flow control valve
4 when the flow control valve is disposed in a first orientation relative to the torch butt; and
5 a second passageway operable to couple the first gas to the inlet of the flow control
6 valve when the flow control valve is disposed in a second orientation relative to the torch butt.

1 25. The torch butt as recited in claim 24, comprising a first seating surface and a
2 second seating surface, wherein the first seating surface is oriented to engage a seat of the flow
3 control valve when the flow control valve is disposed in the first orientation relative to the torch
4 butt, and the second seating surface is oriented to engage the seat of the flow control valve when
5 the flow control valve is disposed in the second orientation relative to the torch butt.

1 26. The torch butt as recited in claim 24, comprising a first receiving portion and a
2 second receiving portion disposed on opposite sides of the rear of the torch butt to enable the
3 torch butt to pivotally receive a lever to operate the flow control valve.

1 27. A torch butt for a cutting torch, comprising:
2 a first seating surface operable to engage a seat of a flow control valve when the flow
3 control valve is disposed in a first orientation relative to the torch butt; and
4 a second seating surface operable to engage the seat of the flow control valve when the
5 flow control valve is disposed in a second orientation relative to the torch butt,
6 wherein the first and second seating surfaces are oriented in opposite directions.

1 28. The torch butt as recited in claim 27, comprising a first lever pivoting portion
2 and a second lever pivoting portion disposed on opposite sides of the torch butt, wherein the
3 first and second lever pivoting portions are operable to pivotally secure a lever to the torch butt.

1 29. The torch butt as recited in claim 28, wherein the first lever pivoting portion is
2 operable to pivotally secure the lever to the torch butt to operate the flow control valve when the
3 flow control valve is disposed in the first orientation relative to the torch butt, and the second
4 lever pivoting portion is operable to pivotally secure the lever to the torch butt to operate the
5 flow control valve when the flow control valve is disposed in the second orientation relative to
6 the torch butt.

1 30. A method of moving a cutting oxygen lever from a first side of a torch to a
2 second side of the torch, comprising:

3 removing the cutting oxygen lever from the first side of the torch;
4 removing a cutting oxygen valve assembly from the torch;
5 inverting the cutting oxygen valve assembly relative to the torch;
6 installing the inverted cutting oxygen valve assembly in the torch; and
7 pivotally securing the lever to the second side of the torch to enable the lever to operate
8 the cutting oxygen valve assembly.

1 31. A torch, comprising:

2 means for selectively securing a cutting oxygen valve assembly within a torch butt in a
3 first and a second orientation relative to the torch, the second orientation being inverted relative
4 to the first orientation; and
5 means for pivotally securing a lever on opposite sides of the torch to enable the lever to
6 operate the cutting oxygen valve assembly in the first and the second orientations.

1 32. A handle for a torch, comprising:

2 a handle body coupleable to a torch butt and to a tube support member, wherein the
3 handle body comprises a skull-shaped cross section uniform along a length of the handle body.

1 33. The torch handle recited in claim 32, wherein the handle body comprises a first
2 curved surface and a second curved surface, the first curved surface having a first radius and the
3 second curved surface having a second radius, the second radius being less than the first radius.

1 34. The torch handle recited in claim 32, wherein the handle body is generally
2 straight.

1 35. The torch handle recited in claim 32, further comprising a plurality of ribs
2 disposed around the handle body.